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# United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Farmers' Cooperative Demonstration Work,

WASHINGTON, D. C.

## CROPS FOR SOUTHERN FARMS.

### THE CORN CROP.

The great American grain food for men and stock upon the farm is corn. Corn, intelligently managed, will produce more food per acre than any other cereal, and it is generally one of the safest of crops, which is an important item, because where men and animals must be fed certainty of production stands among the first requisites. More corn brings into use the pastures and idle lands of the farm. It is the basis of a cheaper food supply for the masses. Therefore, the production of an abundant supply of corn is one of the essentials of good farming.

The southern farmer should grow enough corn for every possible need of the farm, and he can. It has been demonstrated thoroughly that with proper preparation and cultivation he can grow as much per acre as the best farmers in the corn-growing States. At prevailing prices it is cheaper to produce it than to buy it, even with 12 and 15 cent cotton. Furthermore, the best farming requires systematic rotation of crops on all lands. From this standpoint corn should be regarded as a renovating crop. It is a plant of wide adaptability and can be produced in nearly all portions of the United States. It is especially valuable from the fact that we not only get the corn, but can grow with it a heavy crop of cowpeas, which will give a supply of nitrogen and humus, two of the most valuable items in building up soils.

Corn is a tropical plant, and all other things being equal it should thrive better in the Southern than in the Northern States. This, however, is not the case. What is the reason? The main cause is the lack of suitable seed beds in the South.

Experiments have shown that, while it sends many of its roots 3 or 4 feet deep, the corn plant places the great body of its feeding roots



from 3 to 12 inches below the surface where the soil is made loose enough by plowing or by frost to permit it. The roots send out in every direction an infinite number of hairlike growths, which absorb moisture and food. On soils properly prepared and in sections of fair rainfall the feeding ground for corn is usually from 2 to 12 inches below the surface. This is strictly true in the great corn belt of the Northwest. In the South there has been too much shallow plowing. Breaking 3 or 4 inches is not deep enough to make a suitable feeding place for corn roots; on average land it furnishes neither sufficient food nor sufficient moisture for the plant to do its best. The trouble with a shallow seed bed is that it is too wet under heavy rainfall and too dry in periods of drought. To make its largest yield, corn requires not only a deep seed bed but a large amount of humus in the soil. Consequently most land requires some previous preparation—the plowing under of a green crop or the use of stable manure. The use of these is better preparation than to depend entirely upon commercial fertilizers. The land should also be well drained, because standing water is totally unsuited to the deep, penetrating roots of corn. Observe the following rules:

(1) Select a well-drained piece of land, filled with vegetable matter.

(2) Break (plow) in the fall to a depth of a foot or more, with some implement that will not bring too much of the subsoil to the surface, and thoroughly pulverize. If this is done early enough, put in a winter cover crop of rye, oats, or barley, which should be turned under in the spring.

(3) Go over the land with a section harrow two or three times before planting and repeat immediately after planting and again after the corn is up, using the harrow at nearly right angles with the rows.

(4) Use the best seed, and especially such seed as has been tested in the climate of the field to be planted.

(5) Practice intensive, shallow cultivation.

The disk plow, the adjustable section harrow, and the weeder are valuable aids in producing the corn crop.

In selecting the seed it is not advisable that it should be selected from the crib or even from the ordinary field, if the best results are to be obtained. There should be a special plat for seed purposes, which must receive the best preparation of the seed bed and the best seed obtainable, with excellent cultivation and fertilization. Then, before the pollen has matured, all barren stalks and all weak and diseased stalks should be removed, leaving nothing but strong, vigorous, well-eared stalks in the field, because corn is fertilized from all the surrounding plants. Therefore, it is better to select a medium ear from a field where the average corn is excellent than a model

ear from a field where most of the corn is inferior. Much depends also upon the vitality of the seed. To insure high vitality, corn must be gathered before the fall rains, put in a dry, well-ventilated place, and kept free from weevils. Corn is especially responsive to good treatment and careful selection. It is a crop easily improved and deteriorates as the result of bad management with corresponding rapidity.

#### THE COWPEA CROP.

The cowpea is a part of the corn problem in the South, and the plan generally adopted of broadcasting half a bushel to a bushel of seed to the acre at the time of the last working of the corn and covering with the cultivator has given good results.

The corn should be gathered as early as practicable and the stock turned in. Fortunate is the man who has tight fencing, so that the pigs, as well as the work stock and cattle, can have a chance at the cowpeas. On some of the poorer lands the corn rows may be made 6 feet apart and a row of peanuts planted between them; this will add to the value of the fall pasture when no cowpeas are planted. As soon as the crop of cowpeas has been fairly well grazed, break deep, setting the furrows on edge; harrow; sow to oats, vetch, winter barley, or rye, and turn this under in the spring. This plan will economically improve the soil and greatly increase the average crop production.

Where the season is too short to carry out the foregoing plan successfully it has been found that planting vetch and rye or crimson clover in the corn and turning them under in the spring rapidly builds up the soil and is much more economical than the use of large quantities of commercial fertilizers. The general object is to keep the land occupied summer and winter, producing something of value for food or fertilizer and at the same time protecting the loose soils from washing or leaching by the heavy rains of winter and spring.

#### TOOLS AND IMPLEMENTS REQUIRED.

High-priced labor and generally changed conditions make it imperative that more and better farm implements be used on every farm, whether large or small in area. No man can farm now without at least a good breaking or turning plow (a reversible disk is preferable), a disk harrow, a section harrow, a good combination planter, a weeder, and one single-row and one double-row cultivator. The above are essential, and if the size of the farm and the means of the farmer will allow it, many other convenient labor-saving tools can be added. A good mower and a rake for handling the hay are very necessary.



### MORE HORSE POWER NECESSARY.

To use more horse power and less man power per acre or to quit farming is a necessity confronting the South.

There should be more mares on the farm. In the future few small farmers will find it profitable to keep mules; the colts must pay for the expense of using more horse power. In this connection, the more economical feeding of work stock on the farm is of primary importance. Feeding a horse or a mule on pulled corn fodder and corn is so expensive and out of date that it is surprising to find anyone doing it. Farmers have fully proved that pasture for summer and well-cured hay for winter should be the main reliance. By a pasture is not meant a brush patch or a field of weeds, but a tract of land well set in nutritious grasses and well located so as to be usable at all times.

The best results are obtained by providing two pastures, in order to alternate in their use, and especially to allow one to have quite a growth of grass for late fall feeding. Some farmers use one pasture for late fall and spring, and the other during the summer and early fall months; others believe that the best results are obtained by alternating the use of these pastures every month. It is just as injurious to the rapid growth of grass to keep it closely grazed as it would be to a bush to cut it off every morning. It is estimated that three or four times as many animals can be kept on a given number of acres by dividing the land into two pastures and using them alternately for grazing. It is certain that the stock does better under such conditions.

### THE HAY CROP.

The permanent meadow, where it can be secured, is one of the most economical sources of food for animals known. In the extreme South, where the soil is adapted to them, alfalfa, Japan clover, and Bermuda grass rank high. Farther north there are standard grasses which produce well. But if a farmer does not have a permanent meadow of any kind he can easily supply a substitute from the following assortment of forage crops. He can select only one or two of these crops for his needs, but where it is possible it is best to grow patches of all of them, as it will give variety and the ration can be more easily balanced.

### COWPEAS.

The cowpea is the most generally grown and most valuable hay and forage plant in the South. It can be grown anywhere, and covers a longer season of growth than any other. It furnishes large quantities of nutritious feed stuff and, besides, builds up the soil rapidly by furnishing nitrogen and humus.

The soil should be well prepared, as for any other farm crop. Poor preparation is the cause of most of the apparent failures with this crop.

For very early use the Whippoorwill or the New Era variety can be sown early in April in rows 30 inches apart with a corn planter, one-half bushel of seed per acre. Cultivate well, and where land is not fertile use 200 pounds of acid phosphate and 50 pounds of cottonseed meal per acre to give vigorous growth. Planted in this way cowpeas will give a heavy crop of grain and vines for hay in early summer.

For later crops, and where a very heavy yield is desired, the Clay, Unknown, or some other well-known variety may be used.

Hay made from pea vines planted in this way supplies ordinary work stock with complete rations at a season when most needed.

#### COWPEAS AND SORGHUM.

Where preferred and when it is not specially desirable to have very early hay, sorghum and cowpeas may be sown together broadcast, one-half bushel of sorghum to one and one-half bushels of cowpeas per acre. Amber sorghum and some early variety of cowpeas will mature quickly, but for heavy yields Orange sorghum and a running variety of cowpeas should be used.

The land should be well broken and thoroughly prepared before sowing the seed. This point must be observed in all cases.

#### SOY BEANS.

In some localities the soy bean has proved a most desirable hay and forage plant. The beans are very rich in protein and the stalk is equal to pea hay or alfalfa when properly cured. While not adapted to all classes of soils, as is the cowpea, soy beans should be given a trial on every farm.

Sow in rows 3 feet apart, one-half bushel of good seed per acre, cultivate well, and cut when the plants first begin to ripen or turn yellow. When intended for seed purposes the crop should be allowed to ripen a little longer than for hay.

The soy bean has been found valuable for hogs, where they are allowed to gather the crop from the field.

#### VELVET BEANS.

In the Gulf States, and on poor soils especially, the velvet bean will be found a profitable crop. It makes a very luxuriant growth, requires little cultivation, and when planted early will mature large quantities of seed, sufficient to be pastured off by cows and hogs.



The vine is too rank and coarse for hay, but it adds more fertility to the soil than any other legume on account of its growth and its root system.

The seed is cheaper than soy beans or cowpeas, as 1 bushel will be sufficient to plant 4 or 5 acres. For building up very poor soils it ranks first among legumes both as to cost and efficiency.

#### PEANUTS.

The value of peanuts as a hay and food crop has never been appreciated. The peanut will grow on the larger portion of the uplands of the South. As a crop for varied uses nothing excels it. It can be made profitable when nuts are grown for market, and it has been found to produce more and cheaper pork than any other crop. When used as hay for horses or cattle the vines and nuts are pulled up and cured together. In this condition they are relished by all kinds of stock, and as they are highly nutritious they can be utilized in place of more expensive grains to a large extent.

Peanuts should not be planted until warm spring weather. Plant on a well-prepared soil, in rows 3 feet apart and 12 inches apart in the drill for the Spanish variety and a greater distance for larger varieties. The Spanish peanut is preferred for feeding purposes.

The peanut, like the other plants mentioned, is a soil improver, and every farmer should look with more favor on its place among the farm crops.

#### BUCKWHEAT.

One difficulty in the renovation of soils is that where they are very much depleted it is necessary to build them up considerably by the use of stable manure or commercial fertilizers in order that many of the renovating plants may take hold and produce a full crop. It is quite desirable to use plants in such cases that will produce a full crop without this previous preparation. Buckwheat is one of those plants, and is used very extensively as a renovating crop in England. It is not necessary to inoculate the soil previously for buckwheat. It has to its advantage not only its power to grow on poor soils, but its production of a very large crop, with rugged, leafy stalks and of rapid maturity, so that two or three crops can be made in one year. It makes a large quantity of humus. The seed is very rich in nitrogen and the plant affords a large product of stalk and leaf, sufficient to smother all germinating weeds. The Vermont Agricultural Experiment Station shows that better results were secured from feeding buckwheat middlings than from feeding cottonseed meal. Buckwheat leaves the soil very friable.



The plan is to prepare the soil in the spring as soon as all danger of frost is past. Sow broadcast about a bushel and a half of buckwheat to the acre. This first crop can generally be turned under the latter part of June, and should be turned under as deep as possible. Then harrow and sow again to buckwheat, and follow this second crop by fall seeding to rye, oats, or winter barley. Or, the first crop of buckwheat may be followed by cowpeas and these may be grazed or turned under just before frost. Then follow with oats, rye, or barley for a winter cover crop.

Thirty years ago a demonstration was made under our personal supervision on a field of 20 acres which had declined in fertility until it produced only about 14 bushels of corn per acre. After one season of treatment upon the buckwheat plan, the following season the field was planted to corn and, though exceedingly unfavorable on account of the heavy rains, 81 bushels of corn per acre were obtained without the use of fertilizers.

**ALL CORN AND HAY SHOULD BE GROWN ON THE FARM.**

With the splendid records of corn produced per acre in the Southern States, and with the advantages in climate and so many valuable forage crops to supplement grains for feeding to stock, it is a discredit for any farmer to buy corn or hay except in rare cases of misfortune.

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Approved:  
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DECEMBER 10, 1910.

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